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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,118	02/26/2007	Christopher Murphy	PLATYPUS 10969	1358
72960	7590	01/11/2012		
Casimir Jones, S.C. 2275 DEMING WAY, SUITE 310 MIDDLETON, WI 53562			EXAMINER GITOMER, RALPH J	
			ART UNIT 1657	PAPER NUMBER
			MAIL DATE 01/11/2012	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,118

Applicant(s)

MURPHY ET AL.

Examiner

RALPH GITOMER

Art Unit

1657

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 98-103, 105-113 and 121 is/are pending in the application.
- 5a) Of the above claim(s) 106-113 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 98-103, 105 and 121 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-326)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

The RCE Request received 12/21/11 has been entered and claims 98-103, 105, 121 are considered here. Benefit of priority is granted to 2/26/2007.

It appears the point of novelty may be found in present claim 102 directed to liquid crystal optical effects for observing cell movement in the wells where mesogen orientation is changed. All the other claimed features are conventional in this art such as pipettes to introduce precise amounts of liquids into many wells in a plate simultaneously.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 98-101, 103, 105, 121 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The addition to claim 98(d) of "remaining placed" and (e) "after said incubation" are new matter. This issue is discussed on pages 116-117 of the present specification and illustrated in Fig. 45. What may have been intended by the amendment, but was not claimed, is the insert remains in the wells for sufficient time for the cells to attach to the wells while being confined by the insert so that the cells are attached in a defined

region. This concept is also not found in the specification as originally filed and is not novel.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 98-101, 103, 105, 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Goldbard in view of Pham.

Goldbard (2008/0187949) entitled "Multiplexed Assays of Cell Migration" teaches in paragraph 20, plates with various compartments for testing cell migration with candidate cell attraction materials. In paragraphs 34-36 cell chemotaxis and invasiveness in microplate wells is shown. In paragraph 52 compounds that act on the migration of cells by promoting it or inhibiting it can be studied. In paragraph 56 the

migration region may have any suitable position within a well or sub-well. The migration region may be adjacent the floor or bottom surface of the wells.

The claims differ from Goldbard in that they include a cell seeding device and masked and unmasked portions of plates and wells.

It is conventional in this art to transfer cells and apply them to wells with commercially available pipettes and such devices will not be further considered.

Pham (6,171,780) entitled "Low Fluorescence Assay Platforms and Related Methods for Drug Discovery" teaches in column 2 first full paragraph, various multiwell plate formats from 96 - >3000 wells. In column 10 first full paragraph, multiwell platform formats are discussed. In columns 13-14, the multiwell platform may have opaque portions and where the bottom of the well is not opaque, has a high transmittance and may be circular. In column 14 last paragraph bridging to column 15, the wells can include living cells of various types for cell based assays. In column 28 last full paragraph, testing for therapeutic activity and toxicology of cells is shown.

It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Goldbard with cells in wells with the masked and unmasked plates of Pham because Pham teaches a number of benefits of masked wells to facilitate observing selected areas without interference from other selected areas. Observing cells in portions of wells by masking portions would have been obvious in view of Pham which makes observation of selected portions easier.

Observing the same cells for the same function as taught by Goldbard with any known method for its known function with the expected results would have been obvious.

Claim 102 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Goldbard in view of Pham as applied to claims 98-101, 103, 105, 121 above, and further in view of Abbott.

See the teachings of Goldbard and Pham above.

Claim 102 differs from the above references in that it includes the limitation that the wells orient mesogens.

Abbott (WO 99/63329) entitled "Optical Amplification of Molecular Interactions Using Liquid Crystals" (from the PCT search report submitted) teaches on page 60 under The Device, mesogenic layers are supported by a support layer which can be non-planar. On page 61 first and second paragraphs microscopic and spectroscopic techniques are discussed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the method of Goldbard and Pham with liquid crystal technology including mesogens because Abbott teaches mesogens improve observing small changes on surfaces and have useful optical properties. Employing a known technology such as liquid crystals for its known function to improve observing small changes with the expected results would have been obvious. No unexpected result is disclosed.

Applicant's arguments filed 12/21/11 have been fully considered but they are not persuasive.

Applicants' response argues that the claims have been amended to state the cells are incubated with the insert. Goldbard suspends a membrane within a well over the bottom surface of the well and the cells are seeded on the membrane and not on the bottom surface of the well as claimed. Pham and Abbott do not disclose a method for confining cells to a predetermined area on the bottom surface of a well. The insert claimed is distinct from a pipette because it contacts the bottom surface of the well and has an opening therein that exposes the bottom surface of the well to define a predetermined area on the bottom surface of the well. When the insert is removed, the cells are confined to a discrete location within the well defined by the opening in the insert. Particularly, the references do not teach leaving the insert in the well following application of cells to the well, removing the insert, and culturing the cells so that the cells are confined to an area defined by the insert.

It is the examiner's position that the claims have not been amended to be limited to the cells are incubated with the insert where claim 98(d) now states "incubating said cells with said insert remaining placed in said at least one well" and (e) "removing said insert after said incubation". This does not distinguish the claimed method from simply using a pipette to apply the cells and immediately removing the pipette after the cells are deposited in the well. No amount of time of incubating or result is claimed which reads on the amount of time it would take to simply pipette the cells.

Applying cells to a well with a device does not lend patentability and is found in numerous references cited herein. Regarding Goldbard specifically, in paragraph 19 the wells are described that permit and restrict cell migration and passive movement of cells. See paragraph 21 which further describes the wells permitting migratory loss of cells from subcompartments and localization of cells to subregions. Pham teaches in column 3 lines 31-34, cells in multiwell plates which are assayed. Pham and Abbott were not cited to teach confining cells to a predetermined area on the bottom surface of a well. A pipette has an opening of predetermined area and when cells in solution are placed in a well with a pipette, the cells are inherently confined to a discrete location within that well. The claims are not limited to leaving a pipette in the well following application of cells to the well nor culturing the cells in the presence of the pipette so that the cells are confined to an area defined by the pipette.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Henderson (5,801,055) teaches a well insert.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ralph Gitomer whose telephone number is (571) 272-0916. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on (571) 272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ralph Gitomer/
Primary Examiner, Art Unit 1657

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